REMARKS

This is intended as a full and complete response to the Office Action dated March 10, 2009, having a shortened statutory period for response extended two months and set to expire on August 10, 2009. Applicants submit this response to place the application in condition for allowance or in better form for appeal. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-32 are pending in the application and remain pending following entry of this response.

<u>Drawing Objections</u>

The drawings are objected to under 37 C.F.R. 1.83(a) as not showing every feature of the invention specified in the claims. Applicants respectfully submit, however, that the Examiner has misconstrued the requirements under 37 C.F.R. 1.83(a), as well as the content of the present disclosure.

The Examiner seems to interpret 37 C.F.R. 1.83(a) as requiring a flow diagram with blocks corresponding to operations of any method claims. However, a conventional flow diagram is not required to show each recited operation or for a proper understanding of the invention. The text of 37 C.F.R. 1.83(a) is as follows:

> (a) The drawing in a nonprovisional application must show every feature of the invention specified in the claims. However, conventional features disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, should be illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation (e.g., a labeled rectangular box). In addition, tables and sequence listings that are included in the specification are, except for applications filed under 35 U.S.C. 371, not permitted to be included in the drawings.

Applicants respectfully submit that, in the present case, the requirement that the drawings must show every feature is satisfied by the diagrams with functional blocks that correspond to the

recited operations. For example, FIGs. 2 and 4 illustrates graphical symbols and/or labeled representations for each of the operations recited in claim 1. Receiver 254 of FIG. 2 processes a received signal to provide data samples, block 420 of FIG. 4 transforms the data samples in the frequency domain, elements 422 despread the transformed samples to provide despread samples, element 424 (and in some embodiments, such as explicitly recited in claim 5, element 426) combines the despread samples for each time interval to provide a demodulated symbol, which is provided to RX data processor 262 of FIG. 2 for decoding.

Regarding claim 21, the disclosure clearly states (e.g., in paragraphs [0118]) that a computer-readable storage medium (such as memory 272) may store software codes which may be executed by a processor for performing the operations described above.

For at least these reasons, Applicants respectfully submit that drawing amendments are not required and respectfully request withdrawal of this objection.

<u>Claim Rejections - 35 U.S.C. § 101</u>

Claims 27-32 are rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility.

Applicants respectfully submit, however, that the Examiner has misconstrued the subject matter of claim 27. Despite the Examiner's contention, the claim is actually directed to a physical thing, in particular, a processor executing a set of recited instructions.

The preamble of claim 27 recites "A processor executing instructions for recovering data transmitted over a wireless communication channel comprising..." Applicants respectfully submit that the "comprising" refers to the instructions, not the processor. In other words, a proper reading of the claim is that it is the "instructions for recovering data" (which are executed by the processor) that "comprise" the instructions listed as elements in the claim, not that the "processor..." comprises instructions.

For at least these reasons, Applicants respectfully submit the invention recited in claims 27-32 are operable and respectfully request withdrawal of this rejection.

Claim Rejections - 35 U.S.C. § 112

Claims 21-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

Applicants respectfully submit, however, that paragraphs [0117] and [0118] of the present disclosure clearly support the recited claims for "A processor executing instructions for recovering data transmitted over a wireless communication channel comprising". These paragraphs are included herein:

> [0117] The modulation, demodulation, multiple-access, rate control, power control, soft/softer handoff, and other techniques described herein may be implemented by various means. For example, these techniques may be implemented in hardware, software, or a combination thereof. For a hardware implementation, the elements used to implement any one or a combination of the techniques may be implemented within one or more application specific integrated circuits (ASICs), digital signal processors (DSPs), digital signal processing devices (DSPDs), programmable logic devices (PLDs), field programmable gate arrays (FPGAs), processors, controllers, micro-controllers, microprocessors, other electronic units designed to perform the functions described herein, or a combination thereof.

> [0118] For a software implementation, any one or a combination of the techniques may be implemented with modules (e.g., procedures, functions, and so on) that perform the functions described herein. The software codes may be stored in a memory unit (e.g., memory 232 or 272 in FIG. 2) and executed by a processor (e.g., controller 230 or 270). The memory unit may be implemented within the processor or external to the processor, in which case it can be communicatively coupled to the processor via various means as it known in the art.

Clearly the above paragraphs describe a computer readable medium (e.g., memory 232 or 272) storing software codes for performing operations, as recited in claim 21.

Claims 21-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. Applicants respectfully submit, however, that the operations recited in these claims is described in sufficient detail to enable one skilled in the art to practice

the invention. As an example, FIG. 4 and the corresponding description in paragraphs [0055] to [0070] provide sufficient description to enable one to practice the invention as claimed.

Claims 27-32 are also rejected under 35 U.S.C. 112, first paragraph, specifically, since the claimed invention is not supported by either a well-known asserted utility or a well-established utility. As noted above, however, Applicants respectfully submit that the Examiner has misconstrued the preamble of these claims and, further, that these claims are operable and are supported by utility.

For at least these reasons, Applicants respectfully request withdrawal of this rejection with respect to these claims.

<u>Claim Rejections - 35 U.S.C. § 103</u>

Claims 1-2, 5-8, 12-13, 15-21, 23-25, 27-28 and 30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Huang et al.* (U.S. Patent No. 5,870,378, hereinafter, "*Huang*") in view of *Fazel* ("Narrow-Band Interference Rejection in Orthogonal Multi-carrier Spread-Spectrum Communications," 1994 Third Annual International Conference on Universal Personal Communications, October 1994: pp. 46-50).

Applicants respectfully traverse these rejections.

The Examiner bears the initial burden of establishing a *prima facie* case of obviousness. See MPEP § 2141. Establishing a *prima facie* case of obviousness begins with first resolving the factual inquiries of *Graham v. John Deere Co.*, 383 U.S. 1 (1966). The factual inquiries are as follows:

    (A) determining the scope and content of the prior art;

    (B) ascertaining the differences between the claimed invention and the prior art;

    (C) resolving the level of ordinary skill in the art; and

    (D) considering any objective indicia of nonobviousness.

Once the *Graham* factual inquiries are resolved, the Examiner must determine whether the claimed invention would have been obvious to one of ordinary skill in the art.

Respectfully, Applicants submit that the Examiner has not properly characterized the teachings of the references and, as a result, has failed to ascertain differences between the claimed invention and the prior art.

In particular, Applicants respectfully submit that, even if combined, *Huang* and *Fazel* fail to teach all of the elements recited in the claims. For example, regarding claim 1, even if combined, *Huang* and *Fazel* fail to teach "transforming the data samples in the frequency domain in accordance with a particular transformation to provide transformed samples, despreading the transformed samples with one or more sets of despreading coefficients to provide despread samples, wherein each set of despreading coefficients is associated with a respective despreading code that corresponds to a spreading code used to spread data prior to transmission and selected from a set of available spreading codes, and combining the despread samples for each time interval to provide a demodulated symbol representative of a transmitted OFDM symbol" as recited in claim 1. Independent claims 12, 13, 18-21 and 27 recite features similar to independent claim 1, that are also not taught by the combination of *Huang* and *Fazel*.

The present Office Action refers to arguments provided in the Office Action dated October 3, 2008 (hereinafter, "the Previous Office Action"). In Section 3 of the Previous Office Action, the Examiner relies on *Huang* as teaching most of the claim elements, but concedes that *Huang* fails to teach "transforming the data samples in the frequency domain prior to despreading the transformed samples." However, the Examiner relies on *Fazel* as teaching this omitted element.

In particular, the Examiner refers to page 46, lines 15-20 of *Fazel*, which read:

> The estimated interference and fading process will be used for weighting each received chip before despreading. The results showed that the combination of Spread-Spectrum/OFDM in the presence of multi-tone narrow-band interference in a frequency/time selective fading channel is a promising approach.

First off, Applicants respectfully submit that this does not teach "transforming the data samples in the frequency domain prior to despreading the transformed samples" at all, but only teaches

"weighting each received chip" before despreading. There is absolutely no teaching that this weighting involves any transformation.

Further, despite the Examiner's contention, *Huang* fails to teach "combining the despread samples for each time interval to provide a demodulated symbol representative of a transmitted OFDM symbol." As described in the Abstract, *Huang* is directed to a Multi-Code (MC) Code Division Multiple Access (CDMA) receiver. In the entire specification, *Huang* makes no mention of "OFDM" at all, and certainly not "combining the despread samples for each time interval to provide a demodulated symbol representative of a transmitted OFDM symbol" as recited in the claims.

For at least these reasons, Applicants submit claims 1, 12, 13, 18-21 and 27, as well as their dependent claims, are allowable and respectfully request withdrawal of this rejection.

Claims 3-4 and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Huang* in view of *Fazel*, and further in view of *Agee et al.* (U.S. Publication 2004/0095907, hereinafter, "*Agee*").

These claims each depend, directly or indirectly, from claims 1 and 13 which Applicants submit are allowable over *Huang* in view of *Fazel* for at least the reasons discussed above. Applicants further submit that *Agee* fails to overcome the shortcomings in the teachings of *Huang* and *Fazel*. Accordingly, Applicants respectfully submit claims 3-4 and 14 are also allowable and respectfully request withdrawal of this rejection.

Therefore, the claims are believed to be allowable, and allowance of the claims is respectfully requested.

CONCLUSION

Therefore, for at least the reasons presented above with respect to all of the pending claims subsequent to entry of this response, Applicants assert that all claims are patentably distinct from all of the art of record. All objections and rejections having been addressed, it is respectfully submitted that this application is in condition for allowance and a Notice to that

effect is earnestly solicited. If any points remain in issue that the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

   Charge Statement: For this application, the Commissioner is hereby authorized to charge any required fees or credit any overpayment to Deposit Account 17-0026.

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Respectfully submitted,
QUALCOMM Incorporated
Customer Number: **23696**

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Date: _____August 10, 2009_____   By: __/Ross L. Franks/_____
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